traditional one-way payment of interconnection charges by CMRS providers to LECs would frustrate any bill and keep mechanism that the Commission adopts in this proceeding. Because it would be impossible to separate the costs of interstate and intrastate interconnection, a state-imposed access charge regime would effectively force CMRS providers to "double pay" for LEC-supplied termination services for which the LECs were being compensated through bill and keep.

### 2. The Inseverability of Intrastate and Interstate CMRS Services Supports Federal Jurisdiction

The Commission has already determined that LEC-to-CMRS interconnection arrangements are inseverable into intrastate and interstate interconnection components for purposes of the right and type of interconnection,[62/] and now tentatively concludes that the costs associated with the provision of CMRS interconnection are not segregable either.[63/] AT&T agrees with this tentative conclusion.

AT&T urges the Commission to revisit and reverse its decision not to preempt state control over LEC interconnection rates. In Louisiana PSC, the Supreme Court recognized that the FCC could preempt conflicting state rules where the FCC could not "separate the interstate and the intrastate components of [its] asserted...regulation."[64/] Even where physical severability of facilities might be possible, it is not necessary where it is a "practical

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[62/] CMRS Second Report, 9 FCC Rcd at 1498.

[63/] Notice ¶ 111.

[64/] 476 U.S. at 375 n.4.

and economic impossibility."[65] Courts have emphasized that it is the nature of the traffic that passes through facilities rather than the location of the facilities that determines the locus of jurisdiction.[66]

CMRS traffic is not readily susceptible to tracking for interstate and intrastate purposes. As Congress has found, CMRS services by their nature "operate without regard to state lines."[67] CMRS calls that begin as intrastate calls may become interstate because of the mobile nature of CMRS traffic. Also, the nationwide roaming capability offered by many CMRS providers sometimes results in interstate calls appearing to be intrastate.[68]

The Commission cannot enforce its mutual compensation policy for LEC-to-CMRS interconnection if it asserts jurisdiction over only half the equation. The federal policy

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[65] Id., citing North Carolina Utils. Commission v. Federal Communications Commission, 537 F.2d 787 (4th Cir.), cert. denied, 429 U.S. 1027 (1976); North Carolina Utils. Commission v. Federal Communications Commission, 552 F.2d 1036, 1043 (4th Cir.), cert. denied, 434 U.S. 874 (1977).

[66] See, e.g., United States v. Southwestern Cable Co., 392 U.S. 157, 168-69 (1968); National Ass'n of Regulatory Util. Comm'rs v. Federal Communications Commission, 746 F.2d 1492, 1498 (D.C. Cir. 1984); California v. Federal Communications Commission, 567 F.2d 84, 86 (D.C. Cir. 1977), cert. denied, 434 U.S. 1010 (1987).

[67] Budget Act House Report at 260.

[68] For instance, a cellular telephone purchased from a system in Washington, D.C. would have a 202 area code, which would not change when the cellular customer was roaming. When a landline caller within the 202 area code calls the roaming cellular customer, neither the caller nor the LEC switch that routes the landline customer's call can discern where the cellular customer is located. What appears to be an intrastate call to the LEC switch may be interstate if the cellular customer is roaming outside the Washington, D.C. area. Similarly, it is not always possible to tell the jurisdiction of a call when a roaming cellular subscriber calls a landline customer. For example, the subscriber might have a cellular phone with a New Jersey 201 area code and use it to call from his car in New York to his home in New Jersey. The CMRS and LEC switches would not know that this was an interstate call.

favoring a nationwide wireless network would be negated if states were permitted to impose a compensation arrangement for LECs that differs from the mechanism adopted by the Commission.[69/] Recent actions by some states that erect barriers to mutual compensation and non-discriminatory interconnection rates for CMRS providers demonstrate the need for the Commission to move promptly to assert its plenary jurisdiction in this area. These barriers undermine the Commission's requirement that LECs provide "reasonable and fair interconnection" for all commercial mobile services.[70/] Indeed, the incidence of these barriers underscores the need for preemption.

In Connecticut, for example, the Department of Public Utility Control ("DPUC") recently released a decision expressly prohibiting the local telephone company from entering into reciprocal compensation agreements with wireless carriers.[71/] Apparently recognizing that it lacks jurisdiction to prevent CMRS providers from charging for their own interconnection services, the DPUC has attempted to control wireless activities indirectly by forbidding LECs from paying CMRS providers for terminating landline-originated traffic. Significantly, the DPUC justifies its decision to deny wireless carriers mutual compensation on the state's inability to impose local service obligations on such providers.[72/] Thus, while

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[69/] Under Louisiana PSC, the Commission may preempt state regulation that effectively negates the Commission's legitimate exercise of its interstate authority. 476 U.S. at 375 n.4.; see also Transcontinental Gas Pipe Line, 474 U.S. at 424-425.

[70/] Interconnection Order, 2 FCC Rcd at 2910 (the Commission has the authority to preempt state rate regulation if it interferes with federal interconnection policies).

[71/] State of Connecticut Department of Public Utility Control, DPUC Investigation into Wireless Mutual Compensation Plans, Docket No. 95-04-04, Decision, September 22, 1995.

[72/] Id. at 15, 16.

the DPUC has mandated mutual compensation between LECs and competitive landline carriers, it contends that the establishment of a national regulatory framework in Section 332(c) permits the state to deny equal treatment to wireless providers.[73/]

The mutual compensation rules adopted by the California PUC ("CPUC") do not explicitly exclude wireless carriers, but they condition eligibility for such compensation on certification as a competitive local carrier.[74/] The CPUC has granted such certification to wireline carriers that submit to its extensive entry and rate regulation, including, among other things, tariff and contract filing, prior notification of rate changes, and approval before discontinuing service.[75/]

In addition to the lack of mutual compensation, states regularly permit LECs to charge wireless carriers significantly higher rates than competitive LECs ("CLECs") for intrastate interconnection. In New York, for instance, CLECs pay less than a penny per minute for intrastate interconnection. Wireless providers, by contrast, pay an average of 2.6 cents per minute. To assert the right to intercarrier compensation at the rates given to other carriers, a wireless provider must be certified to provide local exchange service.[76/]

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[73/] The DPUC permits wireless carriers to seek certification as competitive local exchange carriers and accede to the state's jurisdiction as a means of qualifying for mutual compensation. Id.

[74/] California Public Utilities Commission, Competition for Local Exchange Service, D.95-07-054, R.95-04-043, I.95-04-044, at 15, 35 (July 24, 1995).

[75/] Id. at 35-36. The CPUC recognizes that it is preempted from regulating entry and rates of CMRS providers. It nonetheless appears to require wireless providers to meet the entry and rate eligibility criteria for mutual compensation. Id. at 15.

[76/] New York State Department of Public Service, The Level Playing Field, An Interim Report, Case 94-C-0095, at 69 (September 1, 1994).

Certification, in turn, requires carriers to file tariffs and provide a number of services, such as 911 access and Lifeline service, as well as contribute to the statewide relay access system and comply with the NYPSC's Open Network Architecture principles and service quality standards.[77/]

While many of the state certification requirements are inapposite to the type of service provided by wireless carriers, almost all state commissions have made clear that mutual compensation and nondiscriminatory rates will not be forthcoming without compliance. States should be explicitly prohibited from conditioning CMRS providers' rights to mutual compensation and reasonable rates on the relinquishment of other federally conferred rights, such as the freedom from state entry and rate regulation.

### 3. The 1996 Act Does Not Alter FCC Jurisdiction Over LEC-To-CMRS Interconnection Rates

The Commission has asked commenters to address what impact the 1996 Act may have on this proceeding.[78/] That statute does not alter the Commission's plenary authority over LEC-to-CMRS interconnection, including the structure and level of interconnection rates.

The requirements of the 1996 Act are not intended as the sole means for obtaining interconnection with a local exchange carrier. Rather, the 1996 Act establishes a

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[77/] Id. at 74-75. Significantly, requiring wireless carriers to provide Lifeline service necessarily involves New York in regulating the rates charged by CMRS providers, thereby violating Section 332(c)'s proscription on state rate regulation.

[78/] See Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers; Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Service Providers, Order and Supplemental Notice of Proposed Rulemaking, CC Docket Nos. 95-185, 94-54 ¶ 6 (released February 16, 1996).

complementary regulatory framework within which all telecommunications carriers can obtain, among other things, interconnection, access to unbundled, network elements, and LEC wholesale offerings to provide telephone exchange service or exchange access.[79/] The new framework also includes a set of pricing standards, to be developed by the Commission[80/] and applied in the first instance by the states. Significantly, however the 1996 Act does not amend Section 332(c)(1)(B) and it explicitly leaves intact the Commission's authority to order interconnection under Section 201 of the Communications Act.[81/] By preserving these provisions, Congress clearly intended that they coexist with the requirements of new Sections 251 and 252.[82/] Nothing in the statutory language or legislative history of the 1996 Act suggests any design by Congress to do anything else.

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[79/] 47 U.S.C. § 251.

[80/] The FCC clearly has jurisdiction to develop these pricing standards. Section 251(d)(1) requires the Commission to "complete all actions necessary to establish regulations to implement the requirements of [section 251]." Id. at § 251(d). These requirements include "just, reasonable, and nondiscriminatory" rates for interconnection and network access and "reciprocal compensation arrangements for the transport and termination of telecommunications. "See id. at § 251(c)(2)(D), (3); id. at § 251(b)(5). The pricing standards established in Section 252(d) elaborate on these requirements, but they remain the Commission's responsibility to implement. To conclude otherwise could allow the state to adopt pricing standards that are inconsistent with, or frustrate the goals of, Section 251. Indeed, the FCC is empowered to "preclude" state regulations that are not consistent with the requirements of Section 251 or that "substantially prevent implementation" of those requirements. Id. at § 251(d)(3).

[81/] Id. at § 251(i) ("Nothing in this section shall be construed to limit or otherwise affect the Commission's authority under section 201.").

[82/] See H.R. Rep. No. 458, 104th Cong., 2d Sess. 123 (1996) ("New section 251(i) makes clear the conferees' intent that the provisions of new section 251 are in addition to, and in no way limit or affect, the Commission's existing authority to order interconnection under section 201 of the Communications Act.") (emphasis added).

More generally, the 1996 Act makes clear that Congress was satisfied with the successful regulatory framework for CMRS that had been adopted in the 1993 Budget Act and did not intend for the new statute to alter that framework.[83/] In addition to maintaining the Commission's pre-existing authority over CMRS interconnection matters, Congress excluded providers of CMRS from the definition of "local exchange carrier"[84/] and specifically preserved the preemption provisions of Section 332(c).[85/] Where Congress intended to modify the 1993 Budget Act's regulatory framework for CMRS, it did so explicitly.[86/]

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[83/] As Representative Fields observed when Congress began consideration of the legislation that ultimately became the 1996 Act:

> Last year we began the process of building a national telecommunications infrastructure when we adopted a regulatory framework for wireless telecommunications services built on the same concepts contained in H.R. 3636. Today we will take the next step in the process of crafting a national telecommunications policy as we turn our attention to other sectors of the telecommunications industry.

To Supersede the Modification of Final Judgment Entered August 24, 1982, in the Antitrust Action Styled United States v. Western Electric Civil Action No. 82-0192, United States District Court for the District of Columbia; To Amend the Communications Act of 1934 To Regulate the Manufacturing of Bell Operating Companies, and for Other Purposes: Hearings on H.R. 3626 Before the Subcomm. on Telecommunications and Finance of the House Committee on Energy and Commerce, 103d Cong., 1st Sess. 117 (1993) (statement of Rep. Fields).

[84/] 1996 Act, § 3(a), adding new section 3(44).

[85/] Id. § 101(a), adding new section 253(e).

[86/] See id. § 401, adding new section 10 (expressly broadening the Commission's forbearance authority with respect to CMRS providers).

The regulatory framework embodied in Section 332(c) has already yielded tangible benefits, promoting the rapid expansion of wireless services by removing unnecessary

(continued...)

## III. THE COMMISSION SHOULD NOT REQUIRE INTEREXCHANGE CARRIERS TO PAY ACCESS CHARGES TO CMRS PROVIDERS

The Commission seeks comment on whether interexchange carriers ("IXCs") should be required to remit any interstate access charges to CMRS providers when LECs and CMRS providers jointly provide access service.[87/] The Commission tentatively concludes that CMRS providers should be permitted to recover access charges from IXCs, and that CMRS providers should be treated no less favorably than CLECs.[88/]

In effect, the Commission proposes to expand the scope of its access charge regime unnecessarily to encompass the joint provision of terminating access by LECs and CMRS providers. Interexchange carriers pay access charges to LECs to cover the costs of the origination, transport, and termination of traffic, and to contribute toward the costs of the local loop and otherwise subsidize LEC operations. While CMRS networks may be the ultimate point of origination or termination for interexchange traffic, IXCs have not paid access charges to CMRS providers. Rather, CMRS providers and IXCs have each absorbed their own network costs to the point of interconnection, and the industry has operated well to date on that basis. To the extent CMRS providers are due any compensation in connection with the transport of interexchange calls, that is a matter for LEC-to-CMRS interconnection arrangements.

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[86/](...continued)
regulatory constraints. Through the auction process, the marketplace has responded to the adoption of this framework by valuing PCS licenses at more than $15 billion to date.

[87/] Notice ¶¶ 115-117.

[88/] Id. at ¶ 116.

## IV. THE COMMISSION SHOULD APPLY ITS COMPENSATION RULES FOR LEC-TO-CMRS INTERCONNECTION TO ALL CMRS PROVIDERS

The Commission seeks comment on whether Section 332(c) of the Communications Act mandates the application of the rules that the Commission develops for LEC-to-CMRS interconnection to apply to all CMRS providers.[89/] For example, the Commission requests comment on whether it should apply its interconnection policies to broadband PCS only, all voice CMRS services, or all CMRS services.[90/]

Congress's principal objective in amending Section 332(c) in 1993 was to adopt a new approach to the classification of mobile services in order to ensure that they would be subject to consistent regulatory treatment.[91/] Indeed, Congress determined that disparities in the regulatory scheme for mobile services "could impede the continued growth and development of commercial mobile services and deny consumers the protections they need."[92/] Congress contemplated differential regulatory treatment of mobile services only where market conditions could justify such differences.[93/] This clear congressional mandate to apply consistent regulatory treatment to all CMRS compels the Commission to find that one set of interconnection regulations should govern all such services.

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[89/] Id. at ¶ 118.

[90/] Id.

[91/] See Budget Act Conference Report at 490 (intent to establish a Federal regulatory framework to govern the offering of all commercial mobile services).

[92/] Budget Act House Report at 260.

[93/] Budget Act Conference Report at 491.

The future growth and development of CMRS, especially non-voice services, could be in jeopardy if the Commission does not apply the interconnection policies developed in this proceeding to all providers.[94/] Paging companies, for instance, currently pay LECs for interconnection when they terminate virtually no traffic on the LEC network. In fact, the vast bulk of paging traffic is originated on the LEC network. Unless paging companies are relieved from having to pay for a service that they perform, they will be at a severe disadvantage vis-a-vis other CMRS providers. This disadvantage would be particularly pronounced for paging companies that are competing against LEC-affiliated paging providers. The inequity of this arrangement highlights the need to ensure reciprocal compensation for all CMRS providers.

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[94/] The Commission has found that narrowband CMRS is "substantially similar" to broadband services and that "to the extent practical, technical and operational rules should be comparable for virtually all existing and reclassified CMRS services." Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services, Third Report and Order, 9 FCC Rcd 7988, 7996 (1994) (concluding that "all reclassified private mobile radio services actually compete, or have the potential to compete within a reasonable time period, with existing commercial mobile radio services").

## CONCLUSION

For the reasons demonstrated herein, the Commission should adopt a comprehensive bill and keep mechanism for interconnection between LECs and CMRS providers until reciprocal compensation rates set at TSLRIC are available. The Commission should assert its plenary jurisdiction over LEC-to-CMRS interconnection, and should permit LECs and CMRS providers to negotiate contracts for interconnection. Finally, the Commission should not compel IXCs to pay access charges to CMRS operators, and it should apply the compensation structure adopted in this proceeding to all CMRS providers.

Respectfully submitted,

AT&T CORP.

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March 4, 1996
F1/49341.3

ANDREWS OFFICE PRODUCTS CAPITOL HEIGHTS, MD (K)

Exhibit A

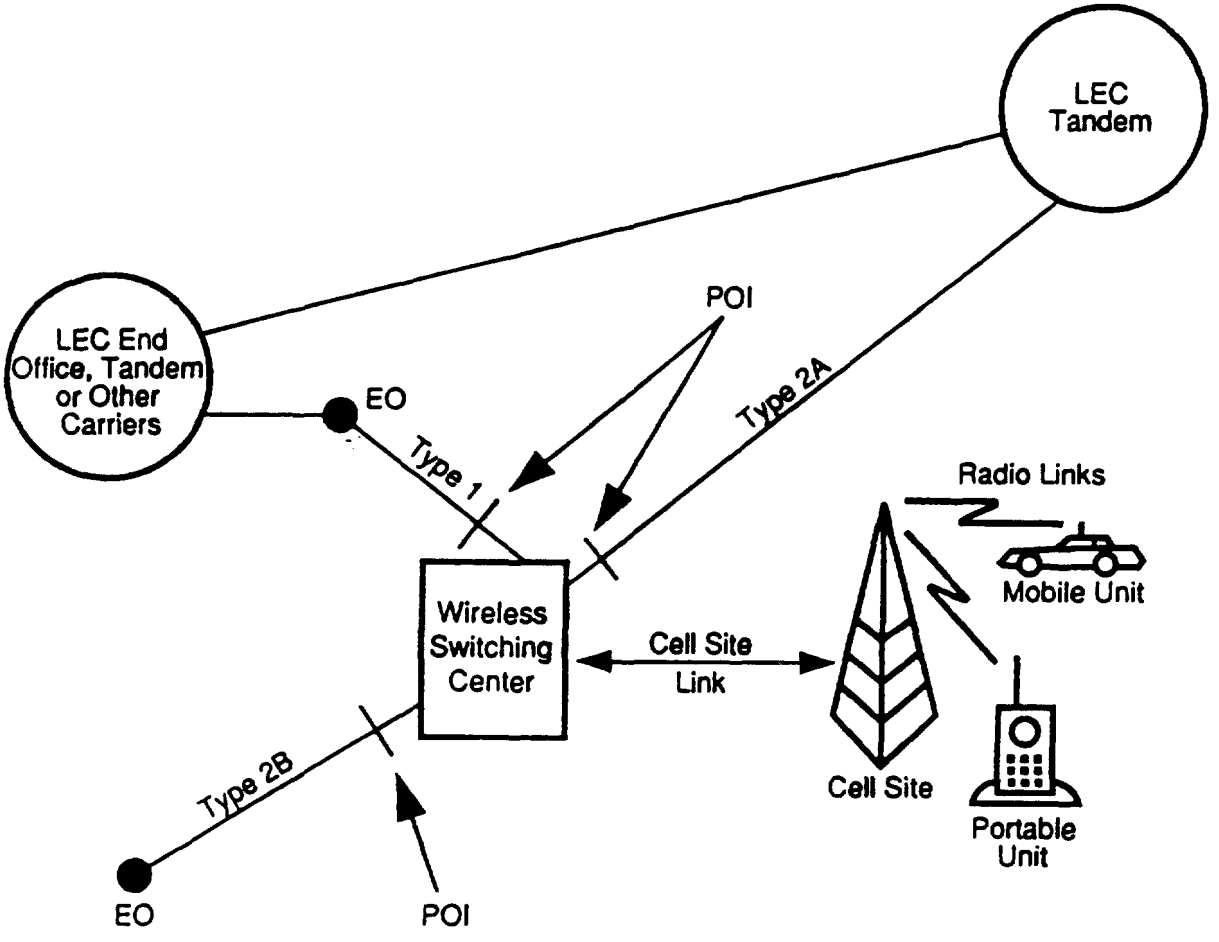


Figure 2-1. WSP to LEC Switched Interconnection Configuration for Type 1, 2A and 2B Interfaces

ANDREWS OFFICE PRODUCTS CAPITOL HEIGHTS, MD (K)

Exhibit B

**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, D.C. 20554**

In the Matter of

| | |
|---|---|
| Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers | CC Docket No. 95-185 |
| Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Service Providers | CC Docket No. 94-54 |

**Declaration of Bruce M. Owen**

## I. QUALIFICATIONS

1. I am an economist and president of Economists Incorporated, an economic consulting firm located at 1233 20th Street, N.W., Washington, D.C. 20036. I am also a visiting professor of economics at Stanford University's Washington, D.C. campus. I hold a Ph.D. in economics from Stanford University (1970) and a B.A. in economics from Williams College (1965). My fields of specialization are applied microeconomics and industrial organization, especially antitrust economics and regulation of industry. I have published a number of books and articles in these fields, including "*United States v. AT&T*: The Economic Issues" (with Roger Noll, in Kwoka and White, eds., *The Antitrust Revolution*, 2nd ed., 1994), *Video Economics* (with Steven Wildman, 1992), and *The Regulation Game* (with Ronald Braeutigam, 1978). I have taught economics as a full-time member of the

faculties of Duke University and Stanford University. From 1979 to 1981 I was the chief economist of the Antitrust Division of the United States Department of Justice. During 1971-1972 I was the chief economist of the White House Office of Telecommunications Policy. I have testified in a number of antitrust and regulatory proceedings, including ones relating to local exchange, interexchange, and cellular telephony. See, for example, my declaration in "In the Matter of Telephone Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Services," CC Docket No. 94-54 (RM-8012), Sept. 12, 1994; my five declarations in "In the Matter of Implementation of Sections 3(n) and 332 of the Communications Act: Regulatory Treatment of Mobile Services," GN Docket No. 93-252, Sept. 19, 1994; and my declaration in "In the Matter of Petition of the People of the State of California and the Public Utilities Commission of the State of California to Retain Regulatory Authority Over Intrastate Cellular Service Rates," PR Docket No. 94-105, Feb. 24, 1995. Each of these declarations was submitted on behalf of AT&T Wireless Services, Inc. or its predecessor, McCaw Cellular Communications, Inc. A copy of my curriculum vitæ is attached to this declaration under Attachment A.

## II. INTRODUCTION AND SUMMARY

2. I have been asked by counsel for AT&T Wireless Services, Inc. to provide an economic analysis of several issues raised by the Federal Communications Commission (Commission) in this proceeding. Current interconnection arrangements between commercial mobile radio service (CMRS) providers and local exchange carriers (LECs) are skewed in favor of LECs who are in a position to impose onerous and anti-competitive interconnection terms on their actual and potential "peer network" competitors. As a result, the Commission is correct that an interim policy is needed to balance

interconnection arrangements until cost-based interconnection terms can be determined.

3. Until the long-run incremental costs for terminating CMRS calls on LEC facilities can be accurately determined, a "Sender Keep All" or "Bill and Keep" (BAK) arrangement is pro-competitive and economically appropriate. Such a policy:

   • would recognize the much higher costs per call for terminating traffic on CMRS facilities versus LEC facilities;

   • would likely adequately compensate LECs for their costs of terminating CMRS-originated calls irrespective of any current imbalance in the direction of calls; and,

   • would not prevent LECs from recovering the net incremental cost, if any, not directly offset by zero charges by CMRS peer networks for terminating LEC-originated traffic. An interim BAK policy also has the benefit of administrative simplicity.

4. To obtain these benefits, a BAK policy should apply to each carrier's *entire* termination service, *i.e.*, from the point of interconnection to the end user. For LECs this would mean that BAK would compensate LECs for terminating traffic originating on CMRS peer networks from LEC tandem switches to local LEC subscribers. Similarly, CMRS carriers would be compensated by BAK for terminating LEC-originated calls, all the way from the cellular switch to the cell site to the mobile user. Costs for directly interconnecting a LEC network with that of a CMRS peer network, *i.e.*, the transport facilities between the two network's points of interconnection, are appropriately shared by each network, the subscribers to both of which directly benefit from the interconnection.

## III. Comprehensive Bill and Keep is a Reasonable Interim Solution for LEC-CMRS Settlements

5. Interconnection between a LEC and a CMRS provider benefits subscribers of both carriers because every subscriber is able to originate and receive a wider set of calls with a greater number of people. This is sometimes referred to as a network externality. In addition, most calls between a local LEC wireline subscriber and a local CMRS subscriber likely benefit both parties to the call irrespective of which party originated the call. Thus, interconnection of LEC systems with CMRS systems likely enhances the demand (subscriber willingness-to-pay) for both types of systems.

6. Interconnected "peer networks," *e.g.*, networks supplying similar or potentially competitive services in the same territory, supply termination services to each other for calls that originate on the other's network. In providing these termination services, peer networks incur costs. These costs include additional equipment that may be necessary to interconnect networks physically as well as increased operating costs to handle the traffic flowing from the other network. Basic principles of efficient pricing suggest that the correct long term solution to recovering these costs is for each network to charge the other carrier based on the costs of terminating traffic originating on the other provider's network. This principle applies to pricing any service that imposes a cost on the system. In the case of CMRS providers, appropriate long-run termination charges will be based on cost because they will be market-determined. In the case of LECs, which remain regulated monopolists, appropriate termination charges should equal the long-run incremental costs of transporting and terminating calls that originate on CMRS networks.

7. Because LECs' long-run incremental costs of terminating CMRS-originated calls have not yet been determined, the Commission needs to decide how interconnected peer networks like LECs and CMRS providers should

compensate each other in the interim. A comprehensive BAK policy, in which each carrier interconnecting and delivering traffic to another would not charge the other carrier for terminating calls, has been suggested as an interim solution. For the reasons set out below, BAK is a reasonable solution until long-run incremental costs can be determined.

8. As the Commission has noted, an interim policy that ensures interconnection on reasonable terms is pro-competitive because it enhances the value subscribers receive from subscribing to a network, and thus increases output. Because interconnection of CMRS providers and LECs eventually can help reduce LECs' market power, LECs currently have the incentive to inhibit interconnection between CMRS providers and their wireline networks. This may take the form of outright refusals or the imposition of onerous terms. This immediate problem requires an effective and timely regulatory solution, in order to permit wireless networks potentially to compete with the LECs' wireline monopolies. BAK is an administratively simple mechanism that can be adopted quickly and inexpensively. BAK will promote competition by eliminating existing problems created by the one-sided compensation terms currently imposed by LECs.

9. BAK is an economically reasonable interim solution that does not likely impose any serious inefficiency. This is because the incremental costs of terminating landline-originated calls on CMRS networks are far greater than the incremental costs of terminating CMRS-originated calls on the landline network. LECs' termination costs are largely fixed, or non-traffic-sensitive. Moreover, CMRS-originated calls likely do not comprise enough traffic on LEC networks to require significant increases in capacity to terminate those calls. The Commission can infer that the long-run incremental costs of landline termination are no higher than the rates in the interconnection tariffs that various LECs have filed with state

commissions for purposes of interconnection with new competing wireline providers of local exchange service. A number of these tariffs offer termination services for interconnection at LEC tandem switches at rates that are less than $.01 per minute. In contrast, termination costs on CMRS networks are highly traffic-sensitive. Additional traffic on wireless networks requires CMRS providers to increase the capacity of their systems. LEC-originated calls that are terminated on CMRS systems contribute to this need for additional capacity and impose real incremental costs on CMRS systems. Therefore, although there may be a significant imbalance in traffic origination, there is an offsetting imbalance in costs of termination.

10. A BAK policy is also not likely to under-compensate the LECs relative to cost-based termination charges despite any perceived or actual imbalance in the current direction of calls. There are several reasons.

- First, as noted above, while relatively more *calls* involving interconnected cellular and LEC wireline systems are terminated on LEC facilities than on cellular systems, under today's pricing conventions, the *costs* imposed on each type of system for terminating calls are not necessarily imbalanced.

- Second, the imbalance in traffic between LECs and cellular providers shifts in the opposite direction for other wireless services such as paging. Thus, LECs arguably would be overcompensated under a BAK policy *vis a vis* these other wireless services. On net, taking into account all CMRS services, there is no reason to forecast that LECs would be significantly under-compensated or over-compensated under a BAK policy.

- Finally, relative traffic flows are endogenous and subject to change based on pricing and technology changes. Today, more cellular calls are terminated on LEC facilities than vice versa because cellular carriers typically charge their subscribers for receiving calls, which induces cellular

subscribers to discourage calls to their cellular phones. Carriers' pricing policies could easily change in the future in ways that affect the relative balance of traffic. For instance, the new Sprint Spectrum PCS service allows "free" receipt of calls up to one minute and supplies subscribers with terminal equipment that provides caller identification information, together with voice mail service. (See Attachment B.) These modifications would tend to increase the number of terminations to wireless subscribers. These changes, to the extent they become more widespread, can be expected to change the relative balance in the direction of traffic between LECs and CMRS providers in the near future. Finally, the subscriber prices for various services will ultimately be determined in part by the Commission's policies with respect to peer carrier compensation.

11. A BAK policy also does not prevent any carrier, LEC or CMRS, from recovering the costs of terminating traffic on its system. Of course, under an interim BAK policy a carrier must recover these costs from its own subscribers. But, as noted above, interconnection enhances the value of service to each carrier's subscribers. Moreover, recipients of calls generally receive benefits from calls just as originators of calls do.

12. An appropriate interim BAK arrangement should involve zero termination charges for traffic from the point of interconnection with each network to the end user. With respect to the LEC, the point of interconnection often is at one of its tandem switches but sometimes at one of its end offices. For a CMRS provider, the point of interconnection is typically at its wireless switching center. CMRS providers and LECs *both* provide switching and transport services for terminating traffic beyond these respective points of interconnection. As noted above, a BAK policy is an appropriate means of compensating both carriers for any costs of providing these services. In particular, it would not be appropriate to impose BAK on a CMRS provider for terminating calls from its wireless switching office to its subscribers

while allowing a LEC to split its switching and termination charges into two components, one of which has a separate charge. Therefore, symmetric treatment of the peer carriers requires that switching and transport services within a LEC network from the point of interconnection to the final end office should be covered by the BAK compensation scheme just as termination services from the final LEC end office to its subscribers. To do otherwise would likely seriously overcompensate LECs for termination services relative to CMRS providers. This is because LEC incremental switching and transport costs from final end offices to wireline subscribers for terminating CMRS-originated calls are likely to be below the incremental costs imposed on CMRS providers for terminating LEC-originated calls. It would be wrong to use BAK to recover only these likely unequal costs. Imposing BAK at the point of interconnection results in the symmetric treatment of parallel types of services, *i.e.*, switching and transport from the point of interconnection to the end user, and more likely approximates efficient pricing.

13. The only remaining cost to recover, after treating point-of-interconnection-to-end user costs, is the cost of transport facilities linking points of interconnection—*e.g.*, cellular switches and tandem wireline switches. These costs are likely to be modest, and obviously should be shared by the two systems, irrespective of which system incurs the initial outlays, because each benefits from the interconnection. Each system should determine how it will recover its share of these common costs from its own subscribers.

I declare under penalty of perjury that the foregoing is true and correct.

Bruce M. Owen

March 4, 1996

# Attachment A

# CURRICULUM VITÆ

## Bruce M. Owen


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BACKGROUND

Born 1943, Worcester, Massachusetts • Attended public schools in Millbury, Massachusetts. • Married 1965 to the former Josetta Knopf • Two children: Peter 1969 and Bradford 1974.

EDUCATION

B.A. Williams College, 1965.
Ph.D. Stanford University, 1970.

PRESENT POSITION

President, Economists Incorporated 1981- • Visiting Professor of Economics, Stanford University (Stanford in Washington) 1989-.

PREVIOUS EXPERIENCE

Antitrust Division, United States Department of Justice: Chief Economist, 1979-1981 • Duke University: Associate Professor of Business and Law 1978-1980, Adjunct Professor of Public Policy 1981-88 • Stanford University: Assistant Professor of Economics, 1973-1978 • White House Office of Telecommunications Policy: Chief Economist, 1971-1972.

CURRENT MEMBERSHIPS AND AFFILIATIONS

Member, American Economic Association • Member, Econometric Society • Member, American Law and Economics Association • Principal, Council for Excellence in Government • Member, National Economists Club.

FELLOWSHIPS

Merit Scholar 1961-65 • Woodrow Wilson Fellow 1966 • National Defense Education Act Title IV Fellow 1966-69 • Brookings Economic Policy Fellow 1970-1971 • Hoover Institution, National Fellow 1974-1975 • Fellow, Aspen Institute for Humanistic Studies, and Chairman, Aspen Institute Task Force on the Future of the Postal Service 1978-79.